

REMARKS/ARGUMENTS

Favorable reconsideration of this application, as presently amended and in light of the following discussion, is respectfully requested.

Claims 1, 3-10, and 12-16 are pending in the above-identified application. Claims 1, 3-6, and 10 are amended. Claims 2 and 11 are cancelled without prejudice or disclaimer. Claims 15 and 16 are newly added. Support for the amendment to Claim 1 can be found in original Claim 2 and in Figs. 4 and 5, for example. Support for the amendments to Claims 3-6 is self-evident. Support for the amendment to Claim 10 can be found in Figs. 10A-12B and at page 30, line 9-page 31, line 4 of the specification, for example. Support for newly added Claim 15 can be found at page 28, line 23-page 29, line 10 of the specification and in Fig. 10B, for example. Support for newly added Claim 16 can be found at page 22, lines 3-6 of the specification, for example. No new matter is added.

In the outstanding Office Action, the Restriction Requirement of August 3, 2005, was made final. Claims 1-11 were rejected under 35 U.S.C. § 102(e) as anticipated by Takano et al. (Japanese Patent No. 2002-100562, herein "Takano"). Claims 1-11 were rejected under 35 U.S.C. § 102(b) as anticipated by Sudani et al. (U.S. Patent No. 5,158,828, herein "Sudani"). Claim 12 was rejected under 35 U.S.C. § 103(a) as obvious over Takano. Claim 12 was rejected under 35 U.S.C. § 103(a) as obvious over Sudani.

As Claims 2 and 11 are cancelled, each rejection of Claims 2 and 11 is respectfully submitted to be moot.

Regarding the rejection of Claim 1 as anticipated by Takano, that rejection is respectfully traversed by the present response.

The present invention relates to an apparatus for heat processing a mask substrate. Amended Claim 1 recites the feature of a heating plate with a front and side surfaces. There is a heating means in the heating plate and a frame member that has an inner peripheral surface and a first clearance between the inner peripheral surface and the side surface. The

frame member is detachably disposed to the heating surface. Further, the frame member is disposed around the mask substrate.

One benefit of the above-noted arrangement is that the mask substrate can receive more uniform heating across its entire surface because the frame member is able to receive and conduct radiant heat. Another benefit is that the frame member is detachable, and therefore, cleaning is facilitated and particle contamination can be reduced.

The outstanding Office Action points to Fig. 6, item (3) of Takano for the feature of a heating plate with a heating means (5) and to item (4) for the feature of a mask substrate. It is unclear as to which feature the outstanding Office Action relies on for the feature of a frame member.

Applicants respectfully submit that item (3) of Takano is not a heating plate, but rather some form of substrate. Thus, the rejection of Claim 1 would appear to misinterpret Fig. 6 of Takano or includes a typographical error indicating the substrate (3) is a heating plate. Accordingly, Applicants address the rejection of Claim 1 as best understood.

To the extent that the outstanding Office Action relies on the top plate (41) for the feature of a heating plate, Applicants respectfully submit that no frame member is disposed around the substrate (3) and detachably disposed to the top plate (41). Accordingly, any rejection of amended Claim 1 in which the top plate (41) of Takano is relied on for the feature of a heating plate as recited in amended Claim 1 is overcome.

To the extent that the rejection of Claim 1 as anticipated by Takano intended to rely on the lower portion (30) for the feature of a heating plate and relies on the top plate (41) for the frame member, Applicants respectfully submit that this interpretation of Takano also fails to disclose all of the features of amended Claim 1. For example, the frame member recited in amended Claim 1 is disposed against "a heating plate for heating the mask substrate having a front surface and a side surface." Amended Claim 1 recites, "a frame member, having an inner peripheral surface and a first clearance between the inner peripheral surface and the side

surface, detachably disposed to the heating plate so that the frame member is disposed around the mask substrate." The "front surface" of the mask substrate is a main surface where processing such as coating of resist is performed and the "side surface" is a surface that is vertically disposed to the "front surface" and surrounds the outer peripheral portion of the mask substrate.

Applicants respectfully submit that no portion of the heating plate (30) or (41) corresponds to the "side surface" recited in amended Claim 1. Thus, if the upper heating plate (41) is relied on for the frame member, it fails to include a clearance between itself and a "side surface" as recited in amended Claim 1.

To the extent that the outstanding Office Action relies on lower plate (30) for the feature of a heating plate and relies on side portion (31) for the feature of a frame member, Applicants respectfully submit that this interpretation also fails to teach or suggest all of the features of amended Claim 1. As shown in Fig. 6, the side portion (31) of Takano is directly held by the heater (32) and the bottom plate (33). Therefore, the heating plate (30) is not structured with a first clearance between the peripheral surface and the side surface, detachably disposed to the heating plate so that a frame member is being disposed around a substrate as recited in amended Claim 1. Rather, as stated in numbered paragraph [0040] of the English translation of Takano, side portion (31) is disposed to the heater (32), not lower plate (30).

In addition, the side portion heating plate (31) includes a heater (32). With the arrangement recited in amended Claim 1, no heater need be provided to the frame member.

Claims 3-10, 12, 15, and 16 depend from amended Claim 1 and patentably distinguish over Takano for the same reasons as amended Claim 1, as well as for their own features.

Notwithstanding the above assertion, it is submitted that the dependent claims recite further features that are not disclosed or rendered obvious by Takano. Features of the dependent claims are discussed below.

Regarding Claims 3-6, as discussed above, Takano fails to disclose the frame member recited in amended Claim 1. Indeed, in Takano the heating plate (31) is held by the heater (32) and the bottom plate (33), and therefore, even if considered to be a frame member, is not disclosed to have a concave shape, convex shape, mirror surface, or rough surface as recited in dependent Claims 3-6, respectively.

Regarding dependent Claims 7-9, Claim 7 recites that the feature of a driving mechanism configured to move the frame member so that a distance between the frame member and the side surface of the mask substrate placed on the heating plate varies. Applicants respectfully submit that, beyond the deficiencies discussed above regarding the rejection of Claim 1, Takano does not include a driving mechanism configured to move a frame member with respect to a substrate. Accordingly, Applicants respectfully submit dependent Claim 7 and Claims 8 and 9 depending from Claim 7 patentably distinguish over Takano for at least this additional reason.

Regarding Claim 10, even if the deficiencies of Takano discussed above were overcome, amended Claim 10 recites that "the frame member is divided along with the side surface in a peripheral direction of the mask substrate placed on the heating plate." Takano does not disclose that the heating plate (31) or any other component is divided along with the inner peripheral face. Accordingly, Applicants respectfully submit that dependent Claim 10 patentably distinguishes over Takano for at least this additional reason.

Regarding the rejection of Claim 1 as anticipated by Sudani, that rejection is respectfully traversed by the present response.

As discussed above, amended Claim 1 recites the feature of a heating plate for heating the mask substrate having a front surface and a side surface and heating means for heating the heating plate. In addition, **a frame member, having an inner peripheral surface and a first clearance between the inner peripheral surface and the side surface, is detachably**

disposed to the heating plate so that the frame member is disposed around the mask substrate.

In contrast, Sudani merely describes a molding apparatus for making a stack of carbon and metal material into a carbon-metal composite. The outstanding Office Action relies on the heating plate (7) for the feature of a heating plate and relies on metal frame (5) for the feature of a frame member. However, nowhere in Sudani is the frame member disclosed as being detachably disposed to the heating plate. The only description throughout the entire specification of the elements of Fig. 1 in Sudani (the sole figure included) states:

FIG. 1 is a schematic view of an example of a molding apparatus for hot pressing. In the FIGURE, 1 is a movable upper press head, 2 is a stationary lower press head, 3 is an upper mold, 4 is a lower mold, 5 is a metal frame, 6 is a molding mixture, 7 is a heating plate containing a sheath heater 7-1, and 8 is a thermal insulating member. After the molding mixture 6 is placed between the upper mold 3 and the lower mold 4, the heating plate 7 is heated by passing current through the sheath heater 7-1, and the molding mixture is pressed by the upper press head. The upper and lower molds can be preheated if desired.¹

Accordingly, no mention is made of the metal frame (5) being detachably disposed on the heating plate (7). Thus, Applicants respectfully submit that amended Claim 1 patentably distinguishes over Sudani for at least this reason.

Moreover, amended Claim 1 recites that "the frame member is disposed around the mask substrate." In Fig. 1 of Sudani, the metal frame (5) is "around" only the upper mold (3), the molding mixture (6), and the lower mold (4). Applicants respectfully submit that none of these components of Sudani is in any way a "mask substrate." Therefore, Applicants respectfully note that Sudani is devoid of any teaching or suggestion that the metal frame is detachably disposed to the heating plate so that the frame member is disposed around a mask substrate as one of ordinary skill in the art would understand the term. Accordingly, Applicants respectfully submit that amended Claim 1 patentably distinguishes over Sudani for at least the reasons discussed above.

¹ Sudani, col. 12, lines 54-65.

Claims 3-10, 12, and 15-16 depend, directly or indirectly, from amended Claim 1 and patentably distinguish over Sudani for at least the same reasons as amended Claim 1.

Consequently, in light of the above discussion and in view of the present amendment, the present application is believed to be in condition for allowance and an early and favorable action to that effect is respectfully requested.

Should Examiner Luu deem that any further action is necessary to place this application in even better form for allowance, Examiner Luu is encouraged to contact Applicants' undersigned representative at the below listed telephone number.

Respectfully submitted,

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